

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) Paper feeding device for dot printers, for example for an ink jet photographic printer, said paper feeding device ~~being provided for movement of a sheet in a given direction of printing and~~ comprising:

a paper feeding motor, and

a picking mechanism including a picking roller motorized by the paper feeding motor, the picking roller adapted to pick a sheet of paper from a stack and move the paper in a picking direction along a picking path,

at least one motor roller located downstream of the picking motor along the picking direction, and motorized by the paper feeding motor, the motor roller adapted to retract the sheet in a retraction direction opposite the picking direction along an alternative path to the picking path, the motor roller further adapted to move the sheet through the printer in a printing direction consistent with the picking direction, and

a changeover mechanism arranged downstream of said motor and suitable for actuation in response to predetermined operating conditions of the printer to ~~move a sheet to be printed at high speed in a preparation stage and at high resolution in association with printing,~~ operate the picking roller to move the sheet at high speed during movement in the picking direction, to operate the at least one motor roller to move the sheet at high speed during movement in the retraction direction, and to operate the at least one motor roller to move the sheet at high resolution during movement of the paper in the printing direction

~~wherein the preparation stage includes in sequence sub-stages of feeding and retracting, and~~

~~wherein the feeding sub-stage is associated with picking of the sheet from a pack with movement of the sheet in a direction consistent with the direction of printing and the retracting sub-stage includes the movement of the sheet in the direction opposite the direction of printing along an alternative path to the picking path.~~

2. (Currently Amended) Device according to claim 1 wherein the at least one motor roller is further adapted to move the sheet in the printing direction to position the sheet for printing after retracting the sheet in the retraction direction ~~preparation stage includes a positioning sub-stage after the retracting sub-stage with movement of the sheet consistent with the direction of printing.~~

3. (Currently Amended) Device according to ~~claims~~ claim 1, wherein said changeover mechanism is ~~provided for moving a~~ adapted to move the sheet at high speed after printing ~~in an expulsion stage, subsequent to its being printed, with movement of the sheet consistent with~~ in the direction of printing to eject the sheet from the printer.

4. (Currently Amended) Paper feeding device for dot printers, for example for a compact, ink jet photographic printer, comprising:

a paper feeding motor, and

a changeover mechanism arranged downstream of said motor and suitable for actuation in response to predetermined operating conditions of the printer to move a sheet to be printed at high speed in a preparation stage for printing and at high resolution ~~in association with~~ during printing, and

~~wherein said paper feeding device comprises an actuating member adapted to switch, positioning of which is servo dependent on the direction of rotation of the paper feeding motor for switching~~ the changeover mechanism between high speed and high resolution, the switching of the actuating member being servo dependent on the direction of rotation of the paper feeding motor.

5. (Previously Presented) Device according to claim 4, wherein said actuating member is fulcrum-mounted on the axis of the feeding motor and is suitable for assuming angular positions associated with a first configuration for movement of the sheet at high speed and with a second configuration for movement of the sheet at high resolution.

6. (Currently Amended) Device according to claim 4, further comprising a blocking group for blocking the position of the actuating member and overriding servo dependency on the ~~above mentioned~~ direction of rotation of the paper feeding motor, and a control group ~~liable for actuation~~ operable to de-activate said blocking group.

7. (Currently Amended) Device according to claim 6 wherein the printer comprises a

carriage for a printhead movable along a printing area, and said control group is servo dependent on the carriage for re-establishing servo control of the actuating member ~~in a~~ when the carriage is in a working position of the carriage, external to the printing area.

8. (Currently Amended) Device according to claim 7, wherein ~~[[it]]~~ the paper feeding device is applied on an ink jet printer comprising a cleaning station in an end-of-stroke-position, said working position being adjacent to said cleaning station.

9. (Previously Presented) Device according to claim 6, wherein said blocking group comprises storing elements for storing a setting condition of said blocking group.

10. (Currently Amended) Device according to claim 1 ~~wherein the retracting sub-stage is started by the feeding sub-stage with activation of the~~ further comprising a blocking group and inversion of the direction of motion of the paper feeding motor (83).

11. (Currently Amended) Device according to claim 10, further comprising a passage sensor switchable by a sheet in an end-of-picking position, wherein movement of the motor roller in the retraction direction ~~the retracting sub-stage~~ starts with a switching of the passage sensor and terminates with another switching of the passage sensor upon the sheet passing through the end-of-picking position.

12. (Currently Amended) Device according to claim ~~[[2]]~~ 10 wherein activation of the blocking group causes the positioning sub-stage is started by the retracting sub-stage with inversion of the direction of motion of the paper feeding motor in association with an activated condition of the blocking group to position the sheet for printing.

13. (Currently Amended) Device according to claim 12, further comprising a reference sensor switchable for a reference position of the sheet with respect to the printing area, wherein ~~said positioning sub-stage terminates with a~~ commutation of the reference sensor in the sheet reference position terminates motion of the paper feeding motor to position the sheet for printing.

14. (Cancelled)

15. (Currently Amended) Device according to claim 5 ~~wherein said actuating member is suitable for being driven in the direction of rotation of the feeding motor for determining the condition of high speed or high resolution movement and in which said~~ further comprising a blocking group comprises including a stopping member for blocking said actuating member in the first configuration, and a removing element that may be actuated operable to deactivate ~~render the above-mentioned stopping member inoperative.~~

16. (Currently Amended) Device according to claim 1, wherein the ~~further including a~~

picking mechanism ~~and~~ further includes a clutch suitable for being connected with the paper feeding motor ~~in said feeding substage.~~

17. (Cancelled)

18. (Currently Amended) Device according to claim 1, further comprising a worm screw and helical wheel coupling ~~which is suitable for being actuated~~ actuatable by the ~~above-mentioned~~ changeover mechanism for high resolution movement of the sheet to be printed.

19. (Currently Amended) Paper feeding device for dot printers, for example for an ink jet photographic printer, comprising:

a paper feeding motor,

a first kinematic linkage associated with said feeding motor for producing high speed ~~sheet movements~~ of a sheet in a during picking of the sheet from a stack and during preparation for printing ~~print preparation stage,~~

a second kinematic linkage associated with said feeding motor and having a transmission ratio different from that of said first kinematic linkage for producing high resolution sheet movements ~~in association with~~ during printing, and

an actuating member for ~~putting~~ selectively operating the first kinematic linkage or the second kinematic linkage ~~into operation,~~

wherein, for a given direction of rotation of said motor, the second kinematic linkage ~~is suitable for determining a direction of~~ imparts movement of to the sheet in a direction opposite to that of the first kinematic linkage.

20. (Currently Amended) Device according to claim 19, further comprising:

a pinion connected to the paper feeding motor,

wherein said actuating member comprises a plate supporting ~~a pair of~~ first and second intermediate tooth wheels meshing with ~~a~~ the pinion ~~of said motor and in which~~ wherein said plate is ~~suitable for being~~ adapted to be driven by said pinion in the direction of rotation of the feeding motor for rotatably connecting in the rotation the first or second one ~~or the other of the~~ intermediate tooth wheel ~~wheels~~ with the first or second kinematic linkage ~~or with the second kinematic linkage and for maintaining this connection.~~

21. (Previously Presented) Device according to claim 20 further comprising a blocking group that is suitable for being actuated to block said plate in a predetermined configuration allowing operativity of the first kinematic linkage for two directions of rotation of the motor.

22. (Currently Amended) Paper feeding device for dot printers, for example for an ink jet photographic printer comprising:

a carriage for a printhead movable along a printing area, ~~said device including~~
a paper feeding motor, ~~and~~

a picking mechanism for picking from a pack and feeding one by one the sheets to be printed, ~~and further comprising~~

a clutch for operatively connecting said picking mechanism with the paper feeding motor,

linkages for moving the sheet to be printed with different degrees of resolution, and
a control group adapted to command the clutch and the linkages based on different positions of the carriage outside the printing area, wherein the control group is servo dependent on the position of the carriage for commanding said clutch and said linkages in different positions of the carriage, outside the printing area.

23. (Currently Amended) Paper feeding device for dot printers, for example for an ink jet, photographic printer, said feeding device ~~including~~ comprising:

a paper feeding motor including a pinion; and
a kinematic linkage comprising a worm screw that is suitable for being actuated by the ~~said~~ paper feeding motor and a helical wheel for moving a sheet at high resolution in association with printing;

a support for said worm screw;
an intermediate tooth wheel that rotates on said support integral with rotation of said worm screw, the intermediate tooth wheel meshing with the pinion;

wherein the support is adapted to be driven by the pinion in a predetermined direction of rotation of the motor to engage the worm screw with the helical wheel.

24. (Cancelled)

25. (Currently Amended) Device according to claim ~~[[24]]~~ 23, further comprising friction means ~~operating on the whole made up of~~ comprising the worm screw and the intermediate tooth wheel, the friction means ~~and~~ having an anti-vibration function in the meshing between said worm screw and said helical wheel.